



Northeastern NC Regional HMP

Hyde County HMPC Meeting

April 28, 2020



Agenda

- Planning Process
- Structure of the Plan
- Community Annexes
- Hazards Profiled
- Goals and Objectives
- Mitigation Action Plans
- Plan Implementation and Maintenance
- Completing the Planning Process
- Hyde County Mitigation
- Next Steps

Planning Process

- Step 1: Organize to Prepare the Plan
- Step 2: Involve the Public – *ongoing*
- Step 3: Coordinate – *ongoing*
- Step 4: Assess the Hazard
- Step 5: Assess the Problem
- Step 6: Set Goals
- **Step 7: Review Possible Activities**
- **Step 8: Draft an Action Plan**
- Step 9: Adopt the Plan
- Step 10: Implement, Evaluate, & Revise the Plan

Structure of the Plan - Overview

1. Introduction
2. Planning Process
3. Planning Area Profile
4. Risk Assessment
5. Capability Assessment
6. Mitigation Strategy
7. Mitigation Action Plans
8. Plan Maintenance
9. Plan Adoption

Appendices

- A. Plan Review Tool
- B. Planning Process Documentation
- C. Mitigation Alternatives
- D. References

Annexes

Structure of the Plan

1. Introduction

- 1.1 Background
- 1.2 Purpose and Authority
- 1.3 Scope
- 1.4 References
- 1.5 Plan Organization

Provides context and justification for the plan

2. Planning Process

- 2.1 Purpose and Vision
- 2.2 History of Hazard Mitigation Planning
- 2.3 Preparing the Plan
- 2.4 Hazard Mitigation Planning Committee
- 2.5 Meetings and Workshops
- 2.6 Involving the Public
- 2.7 Outreach Efforts
- 2.8 Involving the Stakeholders
- 2.9 Documentation of Plan Progress

Explains the steps followed to prepare the plan and documents the process

Structure of the Plan

3. Planning Area Profile

- 3.1 Geography and Climate
- 3.2 Population and Demographics
- 3.3 Parcels and Buildings
- 3.4 Historic Properties
- 3.5 Housing
- 3.6 Infrastructure
- 3.7 Current and Future Land Use
- 3.8 Employment and Industry

Provides an overview of the current conditions in the planning area by participating jurisdiction

4. Risk Assessment

- 4.1 Overview
- 4.2 Hazard Identification
- 4.3 Methodology & Assumptions
- 4.4 Asset Inventory
- 4.5 Hazards Profiles, Analysis & Vulnerability
- 4.6 Conclusions on Hazard Risk

Identifies hazards, exposure, and vulnerability and prioritizes hazards for mitigation

Structure of the Plan

5. Capability Assessment

- 5.1 Overview
- 5.2 Methodology
- 5.3 Capability Assessment Findings
- 5.4 Conclusions on Local Capability

Details capability indicators by jurisdiction and reviews key capabilities in place

6. Mitigation Strategy

- 6.1 Goals & Objectives
- 6.2 Identification & Analysis of Mitigation Activities

Reviews the goals and objectives and the process used to develop them; details the mitigation action identification and prioritization process

Structure of the Plan

7. Mitigation Action Plan

Tables detailing the mitigation actions by jurisdiction

8. Plan Maintenance

8.1 Implementation

8.2 Monitoring, Evaluation,
& Enhancement

8.3 Continued Public Involvement

Summarizes the HMPC and participating jurisdictions' responsibilities once the plan is adopted

9. Plan Adoption

Plan must be adopted by all jurisdictions after APA letter from FEMA

Structure of the Plan

Community Annexes

Planning Process

Community Profile

Risk Assessment

Capability Assessment

Mitigation Strategy

Community Annexes

Local Asset Inventory; Critical Facility Map

ANNEX A: BERTIE COUNTY

Table A.3 – Critical Infrastructure & Key Resources by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	DM	Healthcare	Government Facilities	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Wastefills and Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Bertie County	1,395	1	0	368	1	136	0	42	25	0	0	0	0	0	52	0	1	2,025
Town of Askeville	61	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	98
Town of Aulander	15	0	0	34	0	21	0	7	2	0	0	0	0	0	0	0	0	98
Town of Colerain	22	0	0	28	0	28	0	8	1	0	0	0	0	0	1	0	0	85
Town of Kelford	5	0	0	10	0	0	0	1	2	0	0	0	0	0	0	0	0	15
Town of Lewiston-Woodville	24	0	0	67	0	25	0	1	2	0	0	0	0	0	0	0	0	127
Town of Powellsville	1	0	0	12	0	1	0	1	4	0	0	0	0	0	1	0	0	20
Town of Roxobel	30	0	0	30	0	0	0	1	0	0	0	0	0	0	1	0	0	54
Town of Windsor	31	0	0	154	1	69	1	33	28	0	0	0	0	13	1	0	0	339
Bertie County Total	1,565	16	0	751	2	288	1	103	50	0	0	0	0	77	2	15	6	2,865

Source: NCEM Risk Management Tool

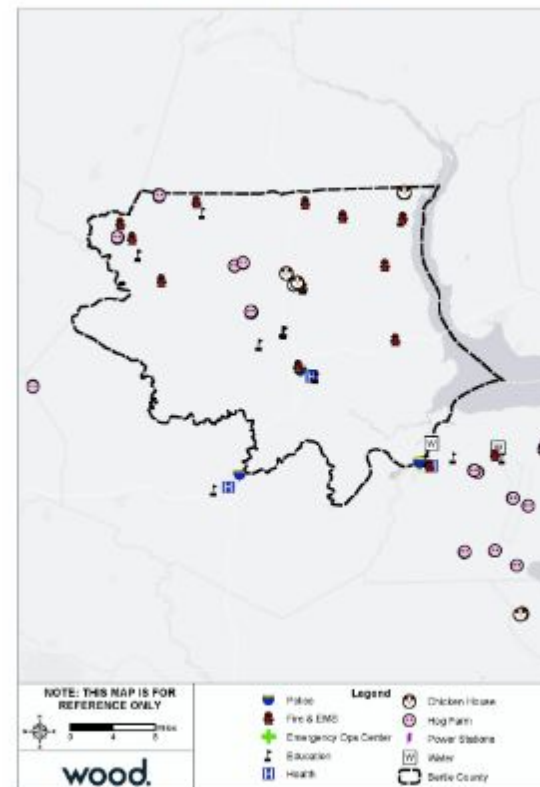
Table A.4 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Bertie County	0	1	1	5	0	0	1	8
Town of Askeville	0	0	0	1	0	0	0	1
Town of Aulander	0	0	0	1	0	0	0	1
Town of Colerain	1	0	0	1	0	0	0	2
Town of Kelford	-	-	-	-	-	-	-	-
Town of Lewiston-Woodville	-	-	-	-	-	-	-	-
Town of Powellsville	-	-	-	-	-	-	-	-
Town of Roxobel	-	-	-	-	-	-	-	-
Town of Windsor	0	4	0	3	0	0	0	7
Bertie County	1	5	1	11	0	0	1	19

Source: NCEM Risk Management Tool

ANNEX A: BERTIE COUNTY

Figure A.2 – Critical Facilities, Bertie County



Source: NCEM Risk Database, GIS Analysts

Community Annexes

Development Since 2011; Local Risk Assessment Data

ANNEX A: BERTIE COUNTY

Housing

The table below details key housing statistics for Bertie County. As a percent of growth from 2010 housing, Bertie County's housing stock has grown by less than one percent. The majority of occupied housing units are owner occupied throughout all of Bertie County and its incorporated areas.

Table A.5 – Housing Statistics, Bertie County, 2010-2017

Jurisdiction	Housing Units (2010)	Housing Units (2017)	% Change 2010-2017	% Owner Occupied (2017)	% Vacant Units (2017)
Ashkenville	108	118	9.3%	91.5%	8.5%
Aulander	450	453	0.7%	74.2%	25.8%
Colerain	120	141	17.5%	71.6%	28.4%
Kelford	130	148	13.8%	79.7%	20.3%
Lewiston-Woodville	262	333	27.1%	68.8%	31.2%
Powellville	130	112	-13.8%	76.8%	23.2%
Roxobel	128	183	42.9%	92.5%	7.5%
Windor	1,193	1,194	0.1%	89.4%	10.6%
Bertie County	9,822	9,855	0.3%	81.1%	18.9%

Source: US Census Bureau American Community Survey.

Economy

The following tables present key economic statistics for Bertie County. Over half the population is not in the labor force in the Towns of Kelford, Powellville, Roxobel, and Windor. The unemployment rate is above 10 percent in Aulander, Kelford, Roxobel, and the county overall.

Table A.6 – Economic Indicators, Bertie County, 2017

Jurisdiction	Population in Labor Force	Percent Employed (%)	Percent Unemployed (%)	Percent Not in Labor Force (%)	Unemployment Rate (%)
Ashkenville	102	30.0%	1.0%	69.0%	2.0%
Aulander	331	41.5%	9.4%	49.2%	18.4%
Colerain	106	35.0%	0.3%	44.5%	0.9%
Kelford	105	38.5%	6.8%	54.5%	15.2%
Lewiston-Woodville	326	68.6%	7.2%	24.2%	9.5%
Powellville	65	33.1%	3.4%	63.5%	9.2%
Roxobel	127	42.1%	6.9%	51.0%	14.2%
Windor	1,029	31.1%	2.3%	68.5%	7.4%
Bertie County	8,367	43.8%	6.4%	49.8%	12.7%

Source: US Census Bureau American Community Survey.

Table A.7 – Employment by Industry, Bertie County, 2017

Jurisdiction	Management, Business, Science and Arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, Transportation, and Material Moving (%)
Ashkenville	30.0%	6.0%	18.0%	28.0%	18.0%
Aulander	10.0%	35.2%	11.8%	13.3%	29.6%
Colerain	49.5%	13.3%	13.3%	21.0%	3.9%
Kelford	30.1%	25.8%	13.5%	14.6%	36.0%
Lewiston-Woodville	24.1%	17.6%	23.4%	7.1%	27.8%
Powellville	28.8%	18.6%	25.4%	5.1%	22.0%
Roxobel	25.7%	19.3%	28.4%	9.2%	17.4%

ANNEX A: BERTIE COUNTY

Jurisdiction	Management, Business, Science and Arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, Transportation, and Material Moving (%)
Windor	24.0%	22.6%	20.7%	8.1%	23.8%
Bertie County	23.7%	18.0%	18.8%	12.7%	29.0%

Source: US Census Bureau American Community Survey.

A.2 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority by jurisdiction in Bertie County than for the Northeastern NC Region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are flood and wildfire.

A.2.1 Flood

Table A.8 details the acreage of Bertie County's total area by jurisdiction and flood zone on the Effective DFIRM. Per this assessment, at nearly 30 percent, unincorporated Bertie County has the largest portion of land area within the mapped 1%-annual-chance floodplain. Conversely, the Towns of Colerain and Powellville are entirely outside the SFHA.

Table A.8 – Flood Zone Acreage by Jurisdiction, Bertie County

Flood Zone	Acreage	Percent of Total
Unincorporated Bertie County		
Zone A	2,146.47	0.5%
Zone AE	138,759.37	29.6%
Zone X Shaded	4,636.88	1.0%
Zone X Unshaded	523,101.53	68.9%
Total	468,644.25	-
Ashkenville		
Zone AE	3.81	1.0%
Zone X Unshaded	375.00	99.0%
Total	378.81	-
Aulander		
Zone AE	139.74	14.8%
Zone X Shaded	38.76	4.2%
Zone X Unshaded	764.24	81.1%
Total	942.75	-
Colerain		
Zone X Unshaded	168.25	100.0%
Total	168.25	-
Kelford		
Zone AE	40.40	13.1%
Zone X Unshaded	268.25	86.9%
Total	308.64	-
Lewiston-Woodville		
Zone AE	54.97	4.4%
Zone X Shaded	14.81	1.2%
Zone X Unshaded	1,190.19	94.5%
Total	1,259.97	-

Hazards Profiled

- Dam & Levee Failure
- Drought
- Earthquake
- Extreme Heat
- Flood
- Hurricane & Tropical Storm
- Severe Weather (Thunderstorm Wind, Lightning, & Hail)
- Severe Winter Storm
- Tornado
- Wildfire
- Coastal Erosion
- Sinkhole

Goals and Objectives

Goal 1: Promote the public health, safety, and general welfare of residents and minimize public and private losses due to natural hazards through local land development regulations, capital improvements planning/investment, and proactive long-range planning.

- **Objective 1.1:** Reduce the length of time that local infrastructure systems are deemed inoperable due to the impacts of natural hazards.
- **Objective 1.2:** Preserve open space in floodplain areas.
- **Objective 1.3:** Reduce flooding and erosion vulnerability through land development initiatives, maintenance, and improvement of storm drainage.

Goal 2: Pursue funds to reduce the risk of natural hazards to existing developments where such hazards are clearly identified, and the mitigation efforts are cost-effective.

- **Objective 2.1:** Improve all participating jurisdictions' general hazard mitigation capability.
- **Objective 2.2:** Work toward compliance with all State and Federal planning and regulatory requirements including standards for Local Emergency Operations Plans, Flood Damage Prevention Ordinances, Continuity of Operations Plans, and the Community Rating System.

Goals and Objectives

Goal 3: Effectively expedite post-disaster reconstruction through the implementation of mitigation strategies and intergovernmental coordination.

- **Objective 3.1:** Reduce the risk of damage from wildfires (including under fires) to existing and future development.
- **Objective 3.2:** Ensure effective local/interagency communication and response during disaster events.

Goal 4: Provide education to citizens that empower them to protect themselves and their families from natural hazards.

- **Objective 4.1:** Ensure adequate warning and notification relating to hazards including efforts to establish well publicized, accessible shelter facilities that meet national standards for safety and supply.
- **Objective 4.2:** Improve the public awareness and understanding of local vulnerability to hazards and improve disaster warning/post-disaster information efforts.

Mitigation Action Plans

Example below from Bertie County – See draft plan for all jurisdictions' actions

A.4 MITIGATION STRATEGY												
Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead Agency is in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2019 Status	Status Comments/Explanation
B1	Revise/update regulatory maps upon completion of FIRM update.	Bertie County, Aikenville, Aulander, Colerain, Kelford, Lewiston-Woodville, Powellville, Rosabel, Windsor	Flood, Hurricane & Tropical Storm, Dam & Levee Failure	High	2.2	PP	<ul style="list-style-type: none"> Bertie County Board of Commissioners Bertie County Administration Municipal Administrations 	Staff Time	General Fund, FEMA (NEP)	As necessary	In Progress – Carry Forward	Bertie County will continue to monitor the status of the County's FIRM Maps and as new maps are developed facilitate the public review process and adoption.
B2	Continue to develop a Geographic Information System (GIS) to map current land uses and to map proposed future land uses (CAMA Land Use Plan Update) as an aid in assessing community vulnerability.	Bertie County, Aikenville, Aulander, Colerain, Kelford, Lewiston-Woodville, Powellville, Rosabel, Windsor	All Hazards	Medium	1.1	P	<ul style="list-style-type: none"> Bertie County Planning Department Bertie County Emergency Management Municipal Administrations 	Staff Time	General Fund, NCDCPS	2 to 3 years	Not Started – Carry Forward	Bertie County continues to establish additional insights and observations regarding the potential impacts of hazards throughout the County. Through implementation of this plan, the County will incorporate this information into County GIS system.
B3	Consider participating in the Community Rating System (CRS) to reduce flood insurance premiums for citizens.	Bertie County, Aikenville, Aulander, Colerain, Kelford, Lewiston-Woodville, Powellville, Rosabel, Windsor	Flood, Hurricane & Tropical Storm, Dam & Levee Failure	Medium	2.1	PP	<ul style="list-style-type: none"> Bertie County Board of Commissioners Bertie County Planning Department Municipal Administrations 	\$10,000	General Fund, NCDCPS	2 to 3 Years	Not Started – Carry Forward	Bertie County, as well as all participating jurisdictions, will consider joining the CRS program through implementation of this plan.
B4	Accomplish the following during the next CAMA Land Use Plan update: <ul style="list-style-type: none"> Establish more specific growth guidelines and policies and specifically delineate sensitive environmental areas for protection; Adopt a more limited policy on the types of uses allowed within flood hazard areas; Adopt a policy to not extend public services and utilities into flood hazard or other environmentally sensitive areas to discourage growth. 	Bertie County, Aikenville, Aulander, Colerain, Kelford, Lewiston-Woodville, Powellville, Rosabel, Windsor	All Hazards	Medium	1.3	PP	<ul style="list-style-type: none"> Bertie County Planning Department Bertie County Administration Municipal Administrations 	\$45,000	General Fund, NCDCPS, NCDEQ	3 to 5 years	Not Started – Carry Forward	Bertie County will consider updating the County's CAMA Land Use Plan through implementation of this plan. The County's municipalities will be provided the option to participate in this effort.
B5	Consider adopting a zoning ordinance that: <ul style="list-style-type: none"> Establishes zoning districts and sets standards for future development. Includes standards for clustering of residential lot development to help preserve flood hazard areas from development. Includes a flood hazard overlay zone to ensure that inappropriate development is adequately controlled. 	Bertie County	Flood, Hurricane & Tropical Storm, Dam & Levee Failure	Medium	1.2	PP	<ul style="list-style-type: none"> Bertie County Planning Department Bertie County Board of Commissioners 	\$75,000	General Fund	3 to 5 years	Not Started – Carry Forward	Bertie County will consider developing and adopting Countywide zoning regulations through implementation of this plan.
B6	Consider adopting subdivision regulations that include minimum standards for property divisions.	Bertie County	Flood, Hurricane & Tropical Storm, Dam & Levee Failure	Medium	1.2	PP	<ul style="list-style-type: none"> Bertie County Planning Department Bertie County Board of Commissioners 	\$10,000	General Fund	3 to 5 years	Not Started – Carry Forward	Bertie County will consider revising its subdivision regulations through implementation of this plan.

Plan Implementation & Maintenance

- Report **annually** on the status of the plan implementation and recommended revisions
 - CRS communities should conduct these reviews quarterly to maximize credits.
- Pursue implementation of mitigation actions
- Monitor funding opportunities
- Ensure continued public involvement
- Integrate the plan into other planning efforts
- The plan will continue to be updated every five years

Completing the Planning Process

- Final components will be compiled into complete draft for review
- Comments will be incorporated into final draft
- Final draft will be submitted to state for review
- Following State review, final draft will be submitted to FEMA for review
 - Approval Pending Adoption (APA) Letter from FEMA
- Once Approved, all jurisdictions must adopt the plan
 - FEMA Final Approval Letter

Hyde County Mitigation

- FY11 FMA Project-Elevated 4 homes
- Hurricane Irene/Rescopement Project-8 elevations/2 reconstructions (demo/new construction)
- FY15 FMA-Reconstruct 1 home
- FY16 FMA-Elevated 3 Homes
- Hurricane Florence/Dorian (Not yet funded)
- FY18 FMA (Not yet funded)

Next Steps

- Review the Draft Plan:
 - <http://www.northeasternhmp.com/draftDocuments.html>
- Provide comments (if necessary):
 - Comments should be submitted to Abigail Moore at abigail.moore@woodplc.com by May 8, 2020.

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Thank You!

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